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ABSTRACT

This "Inside the Vault" newsletter contains two issues. Issue 1 contains a lead article, "Reading the Fed's Playbook," a question-and-answer section, and a bulletin board. The Federal Reserve's primary mission is to ensure that enough money and credit are available to sustain economic growth without inflation. The article explains the Federal Reserve's monetary policy actions and provides recent history about the Fed's actions. The question-and-answer section focuses on gender wage discrimination. The newsletter contains an economic snapshot of the first quarter of 2001. Issue 2 contains an article, "The Cycling Economy," a question-and-answer section, and a bulletin board. The article considers whether the U.S. economy is growing or whether it is in a recession. The question-and-answer section focuses on the "yield curve," asking what it is and what causes it to be inverted. The section also asks about long-term interest rates. The newsletter contains an economic snapshot of the third quarter of 2001. (BT)

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Inside the Vault, 2001.

Dawn Griffitts

Volume 6 Numbers 1-2 Spring/Fall

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THE INSIDE VAULT

An economics education newsletter from the Federal Reserve Bank of St. Louis

READING THE FED'S PLAYBOOK

In an athletic competition, one team attempts to "read" the upcoming plays of the other team. In fact, it's probably fair to say that the athlete's ability to read the next move of an opponent gives him or her a distinct advantage in deciding what actions to take. Similarly, the financial community and the public at large keep a close watch on the Fed and attempt to read the Fed's monetary policy actions. Unlike a competing team, however, the Fed has taken steps to provide signals which are more easily understandable for economic spectators.

From the Broadcast Booth

In February 1994, the Fed began the practice of announcing changes in its target for the federal funds rate immediately after making them. Furthermore, in 2000, the Federal Open Market Committee (FOMC) began issuing an accompanying statement indicating whether it viewed impending economic risks as inflationary, balanced or tending toward a weakening economy. For example, after its December 2000 meeting, the FOMC announced that it changed its balance of risk statement from "The risks are weighted mainly toward conditions that may generate heightened inflation" to "The risks are weighted mainly toward conditions that may generate economic weakness." This announcement policy provides a signal that is immediately communicated to the public and draws a quick reaction from the financial community.

On the Game Schedule

Also beginning in 1994, the FOMC started the practice of announcing its policy decision. In addition, since then it has followed the practice of making changes in the federal funds rate target primarily at regularly scheduled meetings. Since February 1994, 19 of the 23 changes in the federal funds rate target have been made at regularly scheduled FOMC meetings. Prior to this, however, changes in the target were often made between regularly scheduled meetings. For example, of the 55 changes in the federal funds rate target between 1987 and 1994, only seven occurred at regularly scheduled meetings of the FOMC, and 48 were made during intermeeting periods. An additional—though perhaps less obvious—procedural change also occurred in 1994. Previously, the Chairman frequently exercised his discretion to adjust the federal funds rate target during intermeeting periods without formally consulting with other members

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The Federal Funds Rate

The Fed's primary mission is to ensure that enough money and credit are available to sustain economic growth without inflation. The Fed's primary monetary policy tool is open market operations, which is the buying and selling of U.S. government securities on the open market for the purpose of influencing short-term interest rates and the growth of money and credit. The effect of the Fed's purchases or sales of government securities is a decrease or increase in reserves of financial institutions. This change in the supply of reserves affects the federal funds rate, the interest rate that depository institutions charge other depository institutions for short-term lending. Therefore, although the Fed does not directly control the federal funds rate, the Federal Open Market Committee makes changes in monetary policy by targeting the rate and engaging in open market operations to achieve this target.

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Q&A

Q *What is gender wage discrimination?*

A Gender wage discrimination occurs when men and women are not paid equal wages for substantially equal work. Many people believe that the wage gap is a good measure of the extent of gender wage discrimination.

Q *Has this wage gap been reduced since the implementation of the Equal Pay Act and the Civil Rights Act?*

A The gap between men's and women's average earnings is still wide after more than a generation since the Equal Pay Act of 1963 and the Civil Rights Act of 1964, which together barred employment and wage discrimination. In 1999, women's median weekly earnings for full-time workers were 76.5 percent of men's—a gender wage gap of 23.5 cents for every dollar earned by the median man.

Q *Are these wage differences due to discrimination?*

A Wage discrimination accounts for at most only about one-fourth of the gap, with the remainder due to differences between men and women in important determinants of wages such as hours worked, experience, training and occupations. Even this one-fourth of the gap may have less to do with wage discrimination than with the accumulated effects of shorter hours and interrupted careers on women's earnings and promotion prospects.

Q *Will the gap ever close on the wage difference?*

A One way to gain insight into the unmeasured importance of childbearing is to look at the wage gap for age groups that are less likely to have children. Data show that the hourly gender wage gap for women as a whole is smallest—5.8 cents in 1998—for those aged 18-24. Additional studies indicate that among those who are aged 27 to 33 and have never had a child, women's median hourly earnings are 98 percent of men's, a gender wage gap of only 2 cents. Therefore, as long as people choose to have children, there will likely still be a gap between the average earnings of men and women.

The content for Q & A was adapted from "The Gender Wage Gap and Wage Discrimination: Illusion or Reality?" which was written by Howard J. Wall, research officer at the Federal Reserve Bank of St. Louis, and appeared in the October 2000 issue of The Regional Economist, *a St. Louis Fed publication.*

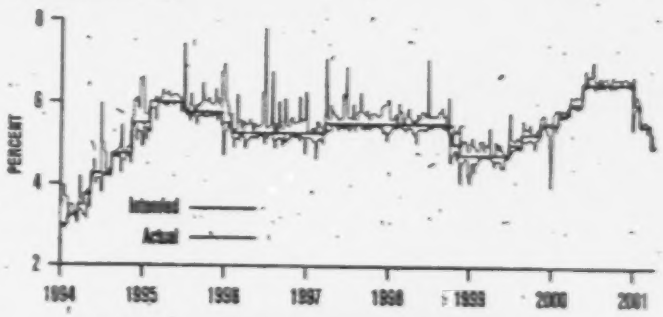
Economic Snapshot

	1st Quarter 2001			
	Q2-00	Q3-00	Q4-00	Q1-01
Growth Rate – Real Gross Domestic Product	5.6%	2.2%	1.0%	NA*
Inflation Rate – Consumer Price Index	3.0%	3.5%	2.9%	4.2%
Civilian Unemployment Rate	4.0%	4.0%	4.0%	4.2%

*Not available

Intended and Actual Federal Funds Rate

(Daily, 1994-2001)



(From Board of Governors, Federal Reserve System, through April 13, 2001, adapted by Michael Pakko, economist at the Federal Reserve Bank of St. Louis.)

Why does the federal funds target rate change?

The goal of the Fed is to promote economic growth without inflation. Economic conditions that indicate inflationary pressures call for the Fed to tighten monetary policy by raising the federal funds target rate. Conversely, when economic weakness appears, the Fed lowers the federal funds target rate in order to encourage economic growth.

Why is there often a difference between the targeted federal funds rate and the actual rate?

Although the Fed has a high degree of influence on the supply of Bank reserves, there are fluctuations and uncertainties on the demand side of the reserves market. For example, in the graph above, when overall demand for reserves was higher than the Fed anticipated, banks bid up the price of those funds, boosting the actual funds rate higher than the target rate.

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June 18-22 and 26-27, 2001
Making Sense of Money and Banking

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This is a seven-day, three-credit course open to elementary and secondary teachers and other educators interested in integrating money and banking topics into social studies, language arts and math. The course will feature guest speakers from the Federal Reserve Bank of St. Louis, as well as tours, hands-on activities, simulations for classroom use and break-out sessions for elementary and secondary teachers. Registration through either Southern Illinois University at Edwardsville or the University of Missouri-St. Louis is required. Three hours of graduate credit will be awarded to educators completing the course.

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To register for ECON 310: Money and Banking through UMSL, contact Sarapage McCorkle at (314) 516-5248. Ask about scholarships for practicing teachers in Missouri.

For more information, contact Dawn Griffitts, economic education coordinator at the Federal Reserve Bank of St. Louis, at (314) 444-8421 or call toll free 1-800-333-0810, ext. 48421.

2001: An Economic Odyssey After 10 Years of Smooth Sailing

A one-day conference for educators K-12

Mark your calendar now, and don't miss the St. Louis Fed's fall teacher conference!

- Learn about tax cuts and their effect on the economy
- Find out what the Fed's doing—and why
- Get a general economic outlook from Fed economist Mike Dueker

Conference Schedule

Nov. 1—Memphis Branch Bank, teachers grades K-12

Nov. 6—Federal Reserve Bank of St. Louis, teachers grades K-8

Nov. 7—Federal Reserve Bank of St. Louis, teachers grades 9-12

Nov. 27—Fayetteville, Ark., at the University of Arkansas, teachers grades K-12

Nov. 29—Louisville Branch Bank, teachers grades K-12

There is no fee, but registration is required. Registration information will be sent in October, or visit our web site at www.stls.frb.org/education.

Fed Challenge 2002

An economics competition for high school students

Are you looking for a way to bring real-world economics into your classroom? Fed Challenge, a competition for high school students sponsored by the Federal Reserve Bank of St. Louis, calls for five-member teams to do research and analyze data about current economic conditions and then recommend a specific course for monetary policy. The student teams make 15-minute presentations before a panel of judges in a mock Federal Open Market Committee forum, followed by 15 minutes of Q & A. Look for fall coaching workshops and team registration information on our web site at www.stls.frb.org/education/fedchal/.

For more information contact:

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Inside the Vault is written by Dawn Griffitts, economic education coordinator at the Federal Reserve Bank of St. Louis, P.O. Box 442, St. Louis, MO 63166. The views expressed are those of the author and are not necessarily those of the Federal Reserve Bank of St. Louis or the Federal Reserve System. Please direct all comments and questions about the publication to (314) 444-8421 or dgriffitts@stls.frb.org.

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of the FOMC. In fact, all 48 intermeeting target changes made during the '87 to '94 period were made at the Chairman's discretion. Current practice for making intermeeting adjustments to the intended federal funds rate suggests that "the Chairman, if feasible, will consult with the Committee before making any adjustments."[1] Although the Chairman of the FOMC is authorized "to adjust somewhat in exceptional circumstances the degree of pressure on reserve positions and hence the intended federal funds rate," clearly the intent of this policy suggests that the Chairman will consult with the committee before changing the target.[2] It is not surprising that all four of the target changes made since 1994 that did not occur at regularly scheduled meetings followed a teleconference.

With the "Basis" Loaded

In order to correctly forecast Fed actions, the markets must forecast both the magnitude and timing of changes in the funds rate target. Since late 1989, the Fed has changed the funds rate target by multiples of 25 basis points, or 1/4 of a percent. Of the 44 changes in the intended funds rate since October 1989, all but one (the 75 basis-point increase on Nov. 15, 1994) have been either 25 or 50 basis points.

By changing its announcement policy, making decisions primarily at regularly scheduled meetings and maintaining consistency in the magnitude of funds rate target changes, the FOMC has made the "Fed playbook" easier to read. So the next time you want to know what the Fed is doing, take a look at the playbook.

[1] Federal Reserve Bulletin (May 2000), p. 330.

[2] Ibid.

This article was adapted from "The Codification of an FOMC Procedure" and "What Accounts for the Reduced Frequency of Fed Actions?" which were written by Daniel L. Thornton and appeared in the March and April 2001 issues of Monetary Trends, *a St. Louis Fed publication.*

Have you ever wondered:

how the Fed fights inflation?
where a check goes after you write it?
how the Fed creates money?
what bank examiners look for?

You'll find the answers to these questions and more in an upcoming web site called **FED101**. Within this virtual classroom, you will find fascinating facts about the history and structure of the Federal Reserve System, get in on interviews with Fed presidents or click through interactive simulations. Look for the announcement of **FED101** in early June on our Bank's web site at www.stls.frb.org/education.

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THE INSIDE VAULT

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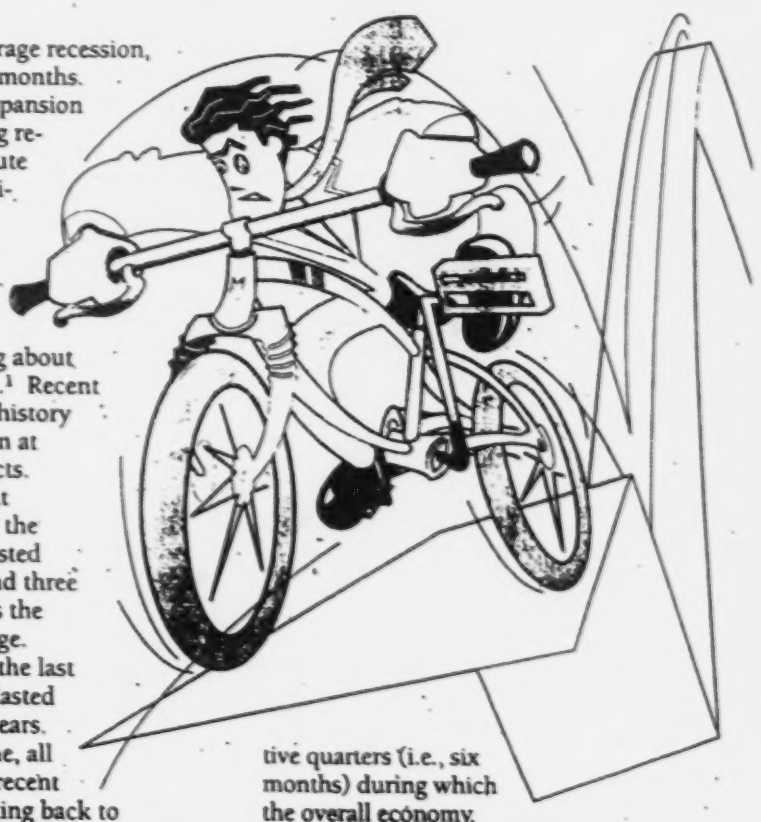
THE CYCLING ECONOMY

Is the economy growing? Well, that's a trick question. On average over time, the economy is always growing, but it also moves through phases of stronger and weaker growth—and occasionally it slips into reverse. At these times—when the growth rate at which goods and services are being produced actually turns negative for a period of time—policymakers such as the Federal Reserve and members of the general public turn their attention to what economists call "business cycles."

The U.S. economy appears in late 2001 to be in the downward phase of a business cycle. Predictably, several age-old economic questions are being asked:

- What constitutes a recession?
- How deep will the downturn be?
- What caused it?
- And, most profoundly, how can we be sure the economy will eventually expand again?



Glancing Back

A growing economy is described as being in expansion. The most recent expansion began in April 1991—and probably lasted at least a few months into 2001. This 10-year expansion is the longest in U.S. history; the average expansion dating back to 1854 lasted about three years. A contracting economy is said to be in recession. The last recession occurred between July 1990 and March 1991 and was about half as long as the average recession, which lasts 18 months. Together, an expansion and the ensuing recession constitute a complete business cycle.

There have been 31 complete business cycles since 1854, averaging about four years each.[1] Recent business-cycle history is noteworthy in at least two respects. The most recent expansion and the previous one lasted between two and three times as long as the historical average. In fact, nine of the last 11 expansions lasted three or more years. At the same time, all 11 of the most recent recessions—dating back to 1937—lasted less than 18 months. Nevertheless, it is risky to assume that the recession into which we now appear headed will necessarily follow recent trends. A business cycle is too complex to forecast with any precision—except for the likelihood that economic growth will resume and that future business cycles will occur.

Making the Turns

A useful rule of thumb for describing recessions is a period of two consecutive quarters (i.e., six months) during which the overall economy, measured by gross domestic product (GDP), contracted. The official arbiter of U.S. business cycles, the Business Cycle Dating Committee of the National Bureau of Economic Research, uses a somewhat different definition of expansion and contraction based on monthly economic indicators (although in most cases the conclusions drawn are very similar). The committee, consisting of six prominent academic economists,

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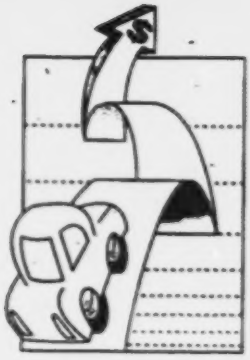


Q&A

Q *What's a yield curve?*

A Bonds with identical risk, liquidity and tax characteristics usually have different interest rates because of different times remaining to maturity. A yield curve is a picture contrasting yields with time to maturity for similar bonds. Yield curves usually slope upward because bonds with longer time to maturity usually pay higher interest rates.

Q *Why are higher yields associated with bonds that have a longer maturity?*

A A longer-term bond involves more risk from interest rate fluctuations. Also, the longer-term bond encompasses expected inflation over the life of the bond. You may recall that nominal interest rates equal the real interest rate plus expected inflation. For example, if the real interest rate is 2.5% and expected inflation is 2%, the nominal interest rate would be 4.5%. Longer-term bonds require compensation for this inflation risk.

Q *Why do long-term interest rates sometimes rise when the Fed cuts the federal funds target, causing short-term interest rates to fall?*

A Although the Fed can exert considerable influence over short-term rates, changes in inflation expectations can confound the effect of the federal funds target changes on longer-term rates. Easier monetary policy lowers short-term rates now, often at the expense of higher prices in the future.

Q *What causes the yield curve to be inverted?*

A Although the yield curve is often upward sloping, sometimes it is downward sloping, in which case it is referred to as inverted. In this case, short-term interest rates are higher than long-term interest rates. If financial markets expect a weakening economy, long-term rates may fall relative to short-term rates. Although an inverted yield curve doesn't always signal a recession, it does indicate the markets' future expectations regarding the direction of the economy's performance.

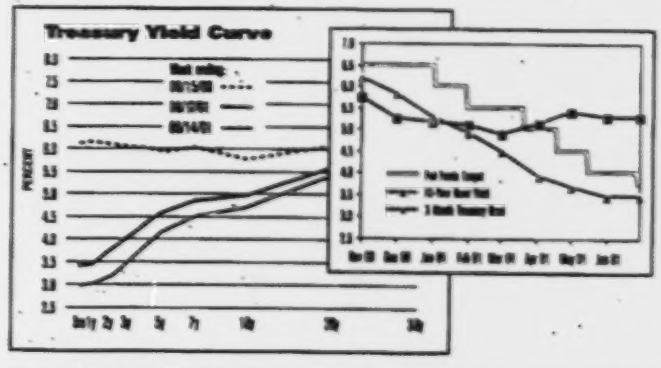
The content for Q & A was adapted from "The Long and the Short of the Federal Funds Target Cuts," which was written by Michael T. Owyang, economist at the Federal Reserve Bank of St. Louis, and appeared in the September 2001 issue of Monetary Trends, *a St. Louis Fed publication.*

Economic Snapshot

3rd Quarter 2001

	Q4-00	Q1-01	Q2-01	Q3-01
Growth Rate – Real Gross Domestic Product	1.9%	1.3%	0.3%	-0.4*
Inflation Rate – Consumer Price Index	2.9%	4.2%	3.1%	0.7%
Civilian Unemployment Rate	4.0%	4.2%	4.5%	4.8%

**Advanced estimate*



Graph on left is from the Board of Governors, Federal Reserve System, published in the Federal Reserve Bank of St. Louis' *Monetary Trends* October 2001. Graph on right is from the front cover of September 2001 *Monetary Trends*, with article written by Michael T. Owyang, economist at the Federal Reserve Bank of St. Louis.

Have yields on Treasury securities moved in the same direction as the federal funds target rate?

Targeting the federal funds rate is one way in which the Federal Open Market Committee (FOMC) conducts monetary policy. As the graph on the right indicates, short-term rates have moved in the same direction as the federal funds rate. Long-term rates, however, generally have moved in the opposite direction. (See the Q & A above for an explanation.)

On the Treasury yield curve above, why are the two solid-line curves upward sloping whereas the dotted line is slightly downward sloping?

All three curves depict yields to maturity for Treasury securities. Notice that the curves for August and September 2001 indicate 3% to 3.5% yields on securities that mature in three months, whereas yields on a 10-year Treasury security are approximately 5%. Both of these yield curves are typical upward sloping curves. The Treasury yield curve for September 2000, however, is slighly inverted, or downward sloping, indicating a negative outlook at that time for future economic performance.

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Workshops for Fed Challenge teachers and team members will be held at each of the following competition locations.

Jan. 29, 2002	3 p.m. - 6 p.m. Louisville Branch Bank
Jan. 30, 2002	3 p.m. - 6 p.m. Memphis Branch Bank
Jan. 31, 2002	1 p.m. - 4 p.m. Little Rock Branch Bank
Feb. 5, 2002	9 a.m. - 1 p.m. Federal Reserve Bank of St. Louis

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applies the following definition to how we determine turning points in the economy:

> A recession is a significant decline in activity spread across the economy, lasting more than a few months, visible in industrial production, employment, real income, and wholesale-retail trade. A recession begins just after the economy reaches a peak of output and employment and ends as the economy reaches its trough. Between trough and peak, the economy is in an expansion. Expansion is the normal state of the economy; most recessions are brief and they have been rare in recent decades (www.nber.org/cycles/recessions.html).

The four principal economic indicators mentioned in the committee's definition—industrial production, employment, real income, and wholesale and retail trade—are chosen to cover the broad range of business and household activity that makes up total economic activity. A recession is indicated not by significant declines in any one of these indicators, but rather by declines in all or nearly all of these benchmarks simultaneously. Industrial production has been declining rapidly since September 2000, for example, while employment has fallen since the first quarter of 2001. Yet the committee had not declared the expansion over by early September 2001 because real income and trade—indicators of household economic condition and behavior—continued to expand.

Looking Ahead

The terrorist attacks of Sept. 11 and their aftermath (including reduced corporate profit expectations and increased layoff announcements) probably will dampen household income and spending growth, the remaining indicators that pointed previously to continued expansion. Virtually all economists now believe a recession is imminent if one has not begun already. We can only guess what its severity and duration will be because many aspects of the current economic situation—the terrorist attacks themselves, the languishing stock market, high levels of household and corporate debt—are unprecedented. Nevertheless, the nearly 150-year history of U.S. business cycles suggests that our economy will grow again within the next year or two.

[1] The National Bureau of Economic Research provides a complete chronology of U.S. business cycles since 1854, at www.nber.org/cycles.html.

This article was adapted from the work of William R. Emmons, economist in the Bank Supervision and Regulation Division of the Federal Reserve Bank of St. Louis.

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